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10/672,707	09/26/2003	Timothy J. Van Hook	007057-0035/010022	1126
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THELEN REID BROWN RAYSMAN & STEINER, LLP			EXAMINER	
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NEW YORK, NY 10150-1510			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/672,707	Applicant(s) VAN HOOK ET AL.	
	Examiner Sean Motsinger	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/23/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-88 is/are pending in the application.
- 4a) Of the above claim(s) 14-33, 36-54 and 69-88 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-8, 12, 13, 34, 35, 55-58, 60-63, 67 and 68 is/are rejected.
- 7) ☐ Claim(s) 4, 8-11, 59, 63-66 is/are objected to.
- 8) ☒ Claim(s) 1-88 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Applicants Arguments/Amendments

1. The election of species filed on 5/23/2007 has been entered and made of record. Applicant has indicated that applicant wishes to withdraw species II according to figure 8B and elect species I according to figure 8A.
2. Applicant's election with traverse of the election of species restriction in the reply filed on 5/23/2007 is acknowledged. The traversal is on the ground(s) that the invention is not independent or distinct. This is not found persuasive.
3. Applicant argues that the species are not independent and distinct. In doing so, applicant argues that insufficient support was given to determine the species to be independent and distinct, but offers no argument that explaining why the species are not independent or distinct. To clarify this, for applicant examiner has provided a clearer version of the restriction using the updated form paragraph 8.01 under the heading "Requirement for Election/Restriction" as well as a detailed argument below explaining why the species are independent and distinct. Applicant should also note that in an election of species, applicant is required to elect one of the species and identify which claims read on which species (see form paragraph 8.01 in the election/restriction included).
4. Examiner Asserts figures 8A and 8B are clearly distinct because in the species of figure 8A the tiles are the same size when stored either in the cache or the main memory while in the species of 8B the tiles are stored in different sizes in the memory and in

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the case and require "dividing" or "resizing" when moving from the main memory to the cache. These are clearly mutually exclusive because one cannot have tile sizes in the main memory and the cache be both the same and different at the same time. This mutually exclusive characteristic is also clear from figures 8A and 8B and page 11 of the specification.

5. Examiner also disagrees with the assertion that only claims 19-24, 40-45 and 74-79 read on species II. Species two is in part defined by the need to "divide" or "resize" the tiles in-between main memory and the cache (see page 8 of the specification.) this resizing of the tiles between main memory and cache is included in claims 14, 69, and 46. Therefore a complete listing of the species II would include these claims and all of their dependents, therefore examiner has determined that at least claims 14-33 36-54 and 69-88 read on species II. Therefore the examiner has withdrawn these claims from consideration and will examine the remaining claims in the detailed action below.

6. Applicant should also note that claims 4, 8-11, 59, and 63-66 are generic claims objected too but containing allowable subject matter (see section of office action entitled allowable subject matter. If these claims were put in independent form and found allowable claims such as claim 29 for example would then be considered if put in independent form because they contain all of the features of claim 4. Further more any new claims depending from claims 4, 8-11, 59, and 63-66 would be considered

because claims 4, 8-11, 59, and 63-66 would be allowable generic claims if written in independent form and 112 rejections overcome.

Requirement for Election/Restriction

1. This application contains claims directed to the following patentably distinct species the species of figure 8A and the species of Figure 8b. The species are independent or distinct because claims to the different species recite the mutually exclusive characteristics of such species. In addition, these species are not obvious variants of each other based on the current record.
2. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, at least claims 1-12 34-35 and 56-67 are generic.
3. There is all examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

4. **Applicant is advised that the reply to this requirement to be complete MUST include (i) an election of a species to be examined** even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.
5. The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.
6. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

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7. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

Rejections Under 35 U.S.C. 112 First Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 8 and 63 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 8 and 63 contain the language "determining whether said tile is covered by less than two triangle primitives." this is the same as covered by one triangle primitive since the tile must at least be covered by one. This does not match applicant disclosure because a tile is partially compressed if it is covered by at least 2 triangle primitives; this makes the claim unsupported by the specification (see page 15 of the specification.)

Rejection Under 35 U.S.C. 112 Second Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 8 and 63 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 8 and 63 contain the language "determining whether said tile is covered by less than two triangle primitives." this is the same as covered by one triangle primitive since the tile must at least be covered by one. This does not match applicant disclosure because a tile is partially compressed if it is covered by 2 triangle primitives, this makes the claim unclear (see page 15 of the specification.) For the purposes of examination examiner has interpreted claims 8 and 63 to read "determining whether said tile is covered by two triangle primitives."

Rejections Under 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-3, 5-7, 12-13, 34-35, 55-58, 60-62, and 67-68 are rejected under 35 U.S.C. 102(e) as being anticipated by Molnar et al US 6,825,847.

11. Re claim 1 Molnar further discloses A method of data compression comprising:
grouping a plurality of pixel data into a plurality of tiles (column 2 lines 10-15);
evaluating said tiles for compression suitability (capable of being compressed
column 2 lines 1-5), wherein said compression recognizes duplicate data (identical
data column 2 lines 25-30) and reduces (reduction column 2 lines 25-30) amount of
duplicate data stored within said tiles; compressing said tiles if said tiles are deemed
suitable for said compression (column 2 lines 5-10)
12. Re claim 2 Molnar further discloses wherein said pixel data is color information
(column 2 lines 25-30)
13. Re claim 3 Molnar further discloses wherein said step of evaluating further
comprises: determining whether a tile is suitable for full compression (clear format
column 10 lines 25-35) designating said tile for full compression if it is deemed to be
suitable (clear format column 10 lines 25-35)
14. Re claim 5 Molnar further discloses wherein said step of compressing further
comprises: storing a single color entry for each pixel in said tile (column 10 lines 2-
35 note a single color value is stored for each pixel).

15. Re claim 6 Molnar further discloses wherein said full compression compresses said pixel data into one word per pixel (see column 10 lines 20-35 note 64 bits per 4 pixels is 1, 16 bit word per pixel).
16. Re claim 7 Molnar further discloses wherein said step of evaluating further comprises: determining whether a tile is suitable for partial compression (reduction column 7 lines 45-55); designating said tile for partial compression if it is deemed to be suitable (reduction column 7 lines 45-55).
17. Re claim 12 Molnar further discloses wherein said partial compression compresses said pixel data into two words per pixel.(column 10 lines 20-35, 128 bits per 4 pixels is 2, 16 bit word per pixel).
18. Re claim 13 Molnar further discloses wherein said tiles are 2.times.2 in size (see figure 3 note one of the tiles to chose from is 2x2).
19. Re claims 56-58, 60-62, and 67-68 These claims are substantially the same as claims 1-3, 5-7, and 12-13 respectively only they are directed to a computer readable medium storing a program for performing these methods, Molnar also discloses performing his method on a computer with software see figure 1 and column 4 lines 35-45.

20. Re claims 34, 35 and 55, these claims are similar to claims 1, 2 and 13 respectively only they claim a graphics processing apparatus for performing these methods. Molnar also discloses with a graphics processing apparatus see figure 1 and column 4 lines 35-45.

Allowable Subject Matter

21. Claims 4, 8-11, 59, and 63-66 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth- in this Office action and to include all of the limitations of the base claim and any intervening claims. Claims 4 and 59 contain allowable subject matter because the prior art of record does not include "wherein said step of determining further comprises: determining whether said tile is wholly covered by a triangle primitive". Claims 8 and 63 contain allowable subject matter because the prior art of record does not "determine whether said tile is covered by two triangle primitives". Claim 9-11 and 64-66 contain allowable subject matter because the prior art of record does not "assign an order to triangle primitives covering said tile."

References Cited

22. References cited but not used in a rejection are cited because they are relevant to the present application, and may be used in a future rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Motsinger whose telephone number is 571-270-1237. The examiner can normally be reached on 9-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Motsinger
8/2/2007


JINGGE WU
SUPERVISORY PATENT EXAMINER